Can You Charge a Battery While Using an Inverter

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Batteries and inverters work hand in hand, but at some point the battery charge will go down. But what if you need to power a load and the battery is at 10%? Can you keep the inverter running or does everything have to stop?

If you are charging the battery with a solar panel, it is perfectly safe because PV modules are designed to do this. You don"t have to worry about overheating because the power going into the battery is managed by a charge controller.

But what if you use a battery charger instead of a solar panel? is it safe? As we will show it is safe for the battery and inverter, though not so good for the charger itself.

But if you have a 10A battery charger like the Schumacher SC1303 and connect it, the battery volt goes up to 13.8 at 36A. Instead of 45A, it is 36A, which is great for your inverter because it means less heat. Jut like other electronics, the less load the better overall for the system.

Heat is not good for inverters, so the less amps drawn the better. But it is not just the inverter, but the battery too. As you can see, charging is good for the inverter and the battery.

The inverter pulls power from the battery to keep your appliances going. The more amps drawn the faster the battery power goes down. But if you charge it, the amps pulled from the battery will be augmented by the charger.

Doing this will conserve the battery duty cycle, and this is the most important element in prolonging battery life. Whether it is lead acid or lithium, charging while the inverter operates is great for both components.

When you connect a charger to a battery, it continuously supplies power to the system until it is full. Or when you pull the plug, because solar batteries are better off topped at 85% or so.

Depending on the inverter load, for every amp the charger puts in the battery, more amps are pulled out because of the inverter. The longer the charger runs, the hotter it will get. And electronic devices should never be allowed to overheat for prolonged periods.

If you decide to do this with a battery charger, here are some things to keep in mind. First, you will never be able to top the battery off as long as the inverter has a load. The charge can only provide so many amps, but if the inverter has a huge load it will not be enough.

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If you want to fully charge the battery, better reduce the inverter load if not drop everything off for a while. When the battery is filled, you can reload everything. If you have to load something, keep the number down as low as possible.

The only risk is if the solar panel is unable to supply power. This can occur if the panels are damaged or there is no sun. During the summer you will probably not run into these issues. But if it is winter or there are overcast skies, you have to make adjustments to your power loads. For instance, you may have to recharge early or add another battery to the system.

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